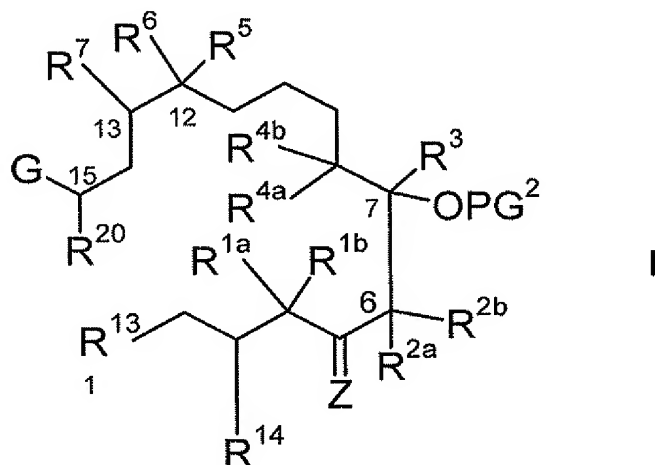


This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Process for the production of~~ A process for preparing a
~~C₁-C₁₅-epothilone fragments of general~~ fragment of formula I,



in which

R^{1a}, R^{1b} are the same or different and mean hydrogen, C₁-C₁₀-alkyl, aryl,

C₇-C₂₀-aralkyl, or together mean a -(CH₂)_m group with m = 2, 3, 4 or 5,

R^{2a}, R^{2b} are the same or different and mean hydrogen, C₁-C₁₀-alkyl,

C₂-C₁₀-alkenyl, C₂-C₁₀-alkinyl, aryl, C₇-C₂₀-aralkyl or together mean a
-(CH₂)_n group with n = 2, 3, 4 or 5,

R³ means hydrogen, C₁-C₁₀-alkyl, aryl, or C₇-C₂₀-aralkyl,

R^{4a}, R^{4b} are the same or different and mean hydrogen, C₁-C₁₀-alkyl, aryl,

C₇-C₂₀-aralkyl or together mean a -(CH₂)_p group with p = 2, 3, 4 or 5,

R⁵ means hydrogen, C₁-C₁₀-alkyl, aryl, or C₇-C₂₀-aralkyl,

R^6, R^7 each mean a hydrogen atom, together an additional bond or together an oxygen atom,

G means a group $X=CR^8-$, or a bicyclic or tricyclic aryl radical,

R^8 means hydrogen, halogen, C_1 - C_{20} -alkyl, aryl, or C_7 - C_{20} -aralkyl, which all can be substituted,

X means an oxygen atom, two alkoxy groups OR^{23} , a C_2 - C_{10} -alkylene- α, ω -dioxy group, which can be straight-chain or branched, H and OR^9 H/ OR^9 or a grouping $CR^{10}R^{11}$,
whereby wherein

R^{23} stands for a C_1 - C_{20} -alkyl radical,

R^9 stands for hydrogen or a protective group PG^x ,

R^{10}, R^{11} are the same or different and stand for hydrogen, a C_1 - C_{20} -alkyl, aryl, or C_7 - C_{20} -aralkyl radical, or R^{10} and R^{11} together with the methylene carbon atom together stand for a 5- to 7-membered carbocyclic ring,

R^{13} means CH_2OR^{13a} , CH_2-Hal , CHO , CO_2R^{13b} , or $COHal$,

R^{14} means hydrogen, OR^{14a} , Hal , or OSO_2R^{14b} ,

R^{13a}, R^{14a} mean hydrogen, SO_2 -alkyl, SO_2 -aryl, SO_2 -aralkyl or together a $-(CH_2)_o$ group or together a $CR^{15a}R^{15b}$ group,

R^{13b}, R^{14b} mean hydrogen, C_1 - C_{20} -alkyl, aryl, or C_1 - C_{20} -aralkyl,

R^{15a}, R^{15b} are the same or different and mean hydrogen, C_1 - C_{10} -alkyl, aryl, C_7 - C_{20} -aralkyl, or together a $-(CH_2)_q$ group,

o means 2 to 4,

q means 3 to 6,

R²⁰ means OPG³, NHR²⁹, or N₃,

Z means an oxygen atom or H and OR¹² H/OR¹²,

whereby wherein

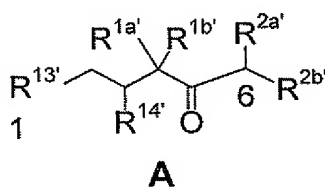
R¹² is hydrogen or a protective group PG^Z

~~including all stereoisomers as well as mixtures~~ or a stereoisomer or mixture thereof,

and wherein

free hydroxyl groups in R¹³ and R¹⁴ can be etherified or esterified, free carbonyl groups in Z and R¹³ can be ketalized, converted into an enol ether or reduced, and free acid groups in R¹³ ~~and~~ and R¹⁴ can be converted into their salts with bases, characterized in that comprising reacting

a C1-C6 C₁-C₆ fragment (~~epothilone numbering system~~) of general formula A



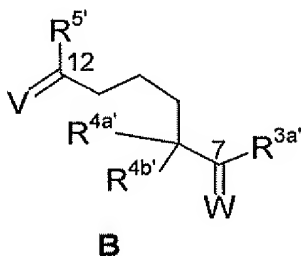
in which

R^{1a'}, R^{1b'}, R^{2a'}, R^{2b'}, R^{13'} and R^{14'} have the meanings ~~already mentioned above~~ for R^{1a}, R^{1b}, R^{2a}, R^{2b}, R¹³ and R¹⁴, ~~including all stereoisomers as well as mixtures~~ or a stereoisomer or a mixture thereof, and wherein free hydroxyl groups in R¹³ ~~and~~ and R¹⁴ can be etherified or esterified, free carbonyl groups in A ~~and~~ and R¹³ can be ketalized, converted

into an enol ether or reduced, and free acid groups in A can be converted into their salts with bases,

is reacted with a ~~C7-C12~~ C₇-C₁₂ fragment (~~epothilone-numbering-system~~) of general formula

B



in which

R^{3a'}, R^{4a'}, R^{4b'} and R^{5'} have the meanings ~~already mentioned above~~ for R^{3a}, R^{4a},

R^{4b} R⁴ and R⁵, and

V means an oxygen atom, two alkoxy groups OR¹⁷, a C₂-C₁₀-alkylene-
α,ω-dioxy group, which can be straight-chain or branched, or H and OR¹⁶
H/OR¹⁶,

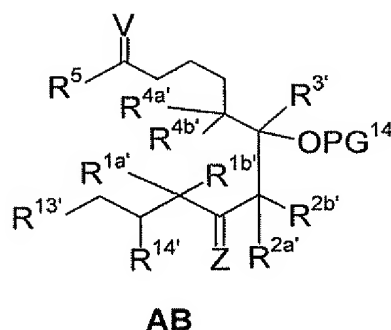
W means an oxygen atom, two alkoxy groups OR¹⁹, a C₂-C₁₀-alkylene-
α,ω-dioxy group, which can be straight-chain or branched, or H and OR¹⁸
H/OR¹⁸,

R¹⁶, R¹⁸, independently of one another, mean hydrogen or a protective group

PG¹,

R¹⁷, R¹⁹, independently of one another, mean C₁-C₂₀-alkyl,

to form a partial fragment of ~~general~~ formula AB

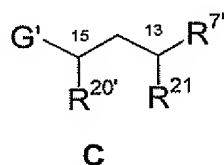


in which

$R^{1a'}$, $R^{1b'}$, $R^{2a'}$, $R^{2b'}$, $R^{3'}$, $R^{4a'}$, $R^{4b'}$, R^5 , $R^{13'}$, $R^{14'}$, V and Z have the already-mentioned above meanings, and

PG^{14} represents a hydrogen atom or a protective group PG, and

this reacting the partial fragment of general formula AB is ~~reacted~~ with a C₁₃-C₁₅ fragment (epothilone numbering system) of general formula C



in which

G' has the meaning ~~already mentioned in general formula I~~ above for G, and

$R^{7'}$ means a hydrogen atom,

$R^{20'}$ means halogen, N_3 , NHR^{29} , a hydroxy group, a protected hydroxy group

$O-PG^3$, a protected amino group $NR^{29}PG^3$, a C_1 - C_{10} -alkylsulfonyloxy

group, which ~~optionally can be~~ is perfluorinated, a benzoyloxy group that is

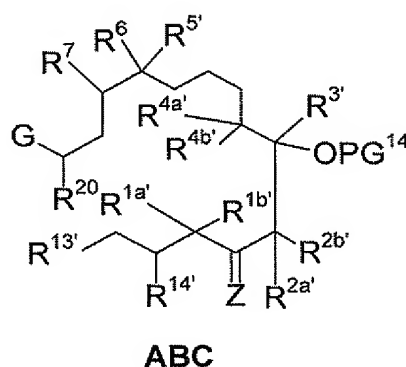
optionally substituted by C_1 - C_4 -alkyl, nitro, chlorine or bromine, an

NR²⁹SO₂CH₃ group, an NR²⁹C(=O)CH₃ group, or a CH₂-C(=O)-CH₃ group,

R²¹ means a hydroxy group, halogen, a protected hydroxy group OPG³, a phosphonium halide radical PPh₃⁺Hal⁻ (wherein Ph = Phenyl; and Hal = F, Cl, Br, or I), a phosphonate radical P(O)(OQ)₂ (wherein Q = C₁-C₁₀-alkyl or phenyl) or a phosphine oxide radical P(O)Ph₂ (wherein Ph = Phenyl),

R²⁹ means hydrogen or C₁-C₆-alkyl,

to form a compound of general formula ABC (= compound of general formula I)



in which

R^{1a'}, R^{1b'}, R^{2a'}, R^{2b'}, R^{3'}, R^{4a'}, R^{4b'}, R^{5'}, R⁶, R⁷, R¹³, R¹⁴, G and Z have the already mentioned above meanings, and

PG¹⁴ represents a hydrogen atom or a protective group PG.

2. (Currently Amended) Process A process according to claim 1, wherein a compound of general formula I is prepared,

in which

R^{1a}, R^{1b} are the same and mean C₁-C₆-alkyl, or together mean a -(CH₂)_m group

with $m = 2, 3$ or 4 ,

R^{2a}, R^{2b} are different and mean hydrogen, C_1 - C_6 -alkyl, C_2 - C_{10} -alkenyl,

C_2 - C_{10} -alkinyl or C_7 - C_{20} -aralkyl,

R^5 means hydrogen, or C_1 - C_6 -alkyl,

R^8 means hydrogen, halogen, or C_1 - C_6 -alkyl,

R^{15a}, R^{15b} are the same or different and mean hydrogen, C_1 - C_6 -alkyl, aryl, C_7 - C_{20} -aralkyl, or together mean a $-(CH_2)_q$ group, and

q means 3 to 6 ,

is produced.

3. (Currently Amended) ~~Process~~ A process according to claim 1, wherein a compound of ~~general~~ formula I is prepared,
in which

R^{1a}, R^{1b} are the same and mean C_1 - C_3 -alkyl, or together mean a $-(CH_2)_m$ group

with $m = 2, 3$ or 4 ,

R^{2a} means hydrogen,

R^{2b} means C_1 - C_5 -alkyl, C_2 - C_6 -alkenyl, or C_2 - C_6 -alkinyl,

R^5 means hydrogen, or C_1 - C_3 -alkyl,

R^6, R^7 together mean an additional bond,

G means a group $X=CR^8$ -, or a bicyclic aryl radical,

R^8 means hydrogen, fluorine, chlorine, or C_1 - C_3 -alkyl,

X means oxygen or a group $CR^{10}R^{11}$,

R¹⁰ means hydrogen,

R¹¹ means aryl,

R¹³ means CH₂OR^{13a} or CO₂R^{13b},

R¹⁴ means OR^{14a},

R^{13a}, R^{14a} together mean a CR^{15a}R^{15b} group,

R^{13b} means hydrogen or C₁-C₆-alkyl,

R^{15a}, R^{15b} are the same and mean C₁-C₃-alkyl, or together mean a -(CH₂)_q group, or

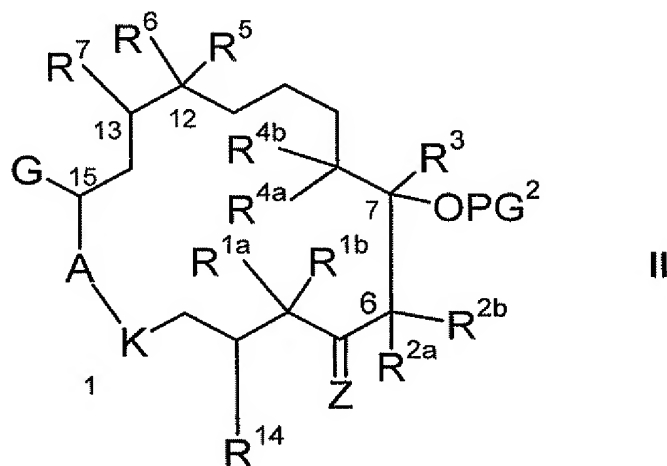
R^{15a}, R^{15b} are different and mean hydrogen or aryl,

q means 4 or 5, and

Z means oxygen;

is produced.

4. (Currently Amended) ~~Process A~~ process for the production of preparing an
epothilone derivatives of general compound of formula II

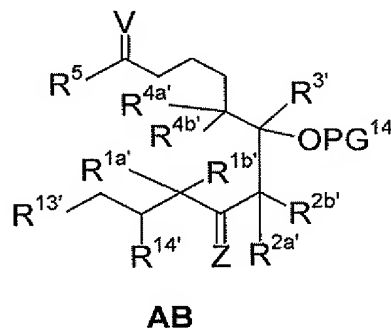


in which substituents R^{1a} , R^{1b} , R^{2a} , R^{2b} , R^3 , R^{4a} , R^{4b} , R^5 , R^6 , R^7 , G, OPG^2 and Z have the meanings that are indicated in general formula I, and

A-K means a group $-O-C(=O)-$, $-OCH_2-$, $-CH_2C(=O)-$, $-NR^{29}-C(=O)-$, or $-NR^{29}-SO_2-$, wherein

an initial
comprising cyclizing an epothilone product fragment of general formula I that is has
been obtained by a process according to claim 1 is cyclized.

5. (Currently Amended) Compounds of general A compound of formula AB



in which $R^{1a'}$, $R^{1b'}$, $R^{2a'}$, $R^{2b'}$, R^3 , $R^{4a'}$, $R^{4b'}$, R^5 , $R^{13'}$, $R^{14'}$, V and Z have the already mentioned meanings

$R^{1a'}$, $R^{1b'}$ are the same or different and mean hydrogen, C_1 - C_{10} -alkyl, aryl,

C_7 - C_{20} -aralkyl, or together mean a $-(CH_2)_m$ group with $m = 2, 3, 4$ or 5 ,

$R^{2a'}$, $R^{2b'}$ are the same or different and mean hydrogen, C_1 - C_{10} -alkyl,

C_2 - C_{10} -alkenyl, C_2 - C_{10} -alkinyl, aryl, C_7 - C_{20} -aralkyl or together mean a
 $-(CH_2)_n$ group with $n = 2, 3, 4$ or 5 ,

R^3 means hydrogen, C_1 - C_{10} -alkyl, aryl, or C_7 - C_{20} -aralkyl,

$R^{4a'}$, $R^{4b'}$ are the same or different and mean hydrogen, C_1 - C_{10} -alkyl, aryl,

_____ C_7 - C_{20} -aralkyl or together mean a $-(CH_2)_p$ group with $p = 2, 3, 4$ or 5 ,

R^{5'} means hydrogen, C₁-C₁₀-alkyl, aryl, or C₇-C₂₀-aralkyl.

R^{13'} means CH₂OR^{13a}, CH₂-Hal, CHO, CO₂R^{13b}, or COHal.

R^{14'} means hydrogen, OR^{14a}, Hal, or OSO₂R^{14b}.

R^{13a}, R^{14a} mean hydrogen, SO₂-alkyl, SO₂-aryl, SO₂-aralkyl or together a
-(CH₂)₀ group or together a CR^{15a}R^{15b} group.

R^{13b}, R^{14b} mean hydrogen, C₁-C₂₀-alkyl, aryl, or C₁-C₂₀-aralkyl, and

PG¹⁴ represents a hydrogen atom or a protective group PG.